IN THE CLAIMS

1. (Previously presented) A high-resolution sensing method for a scanner, to allow the scanner to have a scan resolution thereof increased m times, wherein the scanner comprises a motor and a charge coupled device, and wherein the charge coupled device comprises m rows of sensors, the sensing method comprising:

moving the motor during an exposure time a distance substantially equal to a width of one row of the sensors at a speed substantially equal to the width divided by the exposure time; and

using the m rows of sensors concurrently to scan m document portions during the exposure time wherein each of said m document portions are not adjacent to any other of said m document portions, wherein each row of sensors is spaced apart from each other row of sensors.

2. (Previously presented) The sensing method according to claim 1, wherein the distance between rows of sensors is substantially equal to $(x/m)+n$ times of the width, wherein x is a positive integer smaller than m, and n is an integer equal to or larger than 0.

3. (Previously presented) The sensing method according to claim 1, wherein the motor comprises a step motor.

4. (Previously presented) The sensing method according to claim 1, further comprising processing and re-sorting a plurality of staggered image signals to obtain a plurality of image data.

5. (Previously presented) A high-resolution sensing method for a scanner, to increase a resolution of the scanner to m+1 times, wherein the scanner comprises a motor and a charge coupled device, and wherein the charge coupled device further comprises m rows of sensors, the sensing method comprising:

moving the motor during an exposure time a distance substantially equal to $m/(m+1)$ times the width of one row of the sensors at a speed substantially equal to $m/(m+1)$ times the width divided by the exposure time; and

using the m rows of sensors to concurrently scan m document portions during the exposure time wherein each of said m document portions are not adjacent to any other of said

m document portions, wherein each row of sensors is spaced apart from each other row of sensors.

6. (Previously presented) The sensing method according to claim 5, wherein the distance between the rows of sensors is equal to n times the width, and n is an integer equal to or larger than 0.

7. (Previously presented) The sensing method according to claim 5, wherein the motor comprises a step motor.

8. (Previously presented) The sensing method according to claim 5, further comprising processing and re-sorting a plurality of staggered image signals to obtain a plurality of image data.

9. (Previously presented) An apparatus, comprising:

means for allowing a scanner to have a scan resolution thereof increased m times, wherein the scanner comprises a motor and a charge coupled device, and wherein the charge coupled device comprises m rows of sensors spaced a distance from each other, and further wherein the means for allowing a scanner to have a scan resolution increase of m times comprises

means for moving the motor during an exposure time a distance substantially equal to a width of one row of the sensors at a speed substantially equal to the width divided by the exposure time; and

means for using the m rows of sensors concurrently to scan m document portions during the exposure time wherein each of said m document portions are not adjacent to any other of said m document portions.

10. (Previously presented) The apparatus of claim 9, wherein the distance between rows of sensors is substantially equal to (x/m)+n times of the width, wherein x is a positive integer smaller than m, and n is an integer equal to or larger than 0.

11. (Currently Amended) A method, comprising:

scanning concurrently a first portion and a second portion of a document using a first row of sensors for the first document portion and a second row of sensors for the second

document portion, wherein the first and second document portions are not adjacent to each other, <u>wherein each of the first and second rows of sensors includes a plurality of sensors to detect three primary colors,</u> and wherein the first and second rows of sensors are spaced apart from each other;

scanning concurrently a third portion and a fourth portion of a document using the first row of sensors for the third document portion and the second row of sensors for the fourth document portion, wherein the third and fourth document portions are not adjacent to each other; and

sorting data from the first and second rows of sensors to produce image data.

12. (Previously presented) The method of claim 11, wherein the first and second rows of sensors are spaced apart from each other at least a distance of one quarter of the width of each of the rows of sensors.

13. (Previously presented) An apparatus, comprising:

means for scanning concurrently a first portion and a second portion of a document using a first row of sensors for the first document portion and a second row of sensors for the second document portion, wherein the first and second document portions are not adjacent to each other, and wherein the first and second rows of sensors are spaced apart from each other;

means for scanning concurrently a third portion and a fourth portion of a document using the first row of sensors for the third document portion and the second row of sensors for the fourth document portion, wherein the third and fourth document portions are not adjacent to each other; and

means for sorting data from the first and second rows of sensors to produce image data.

14. (Previously presented) The apparatus of claim 13, wherein the first and second rows of sensors are spaced apart from each other at least a distance of one quarter of the width of a row of sensors.

15. (Previously presented) A method, comprising:

dividing a scanning area into a plurality of scanning regions;

scanning a first portion of a first of the plurality of scanning regions using a first array of sensors during a first time period;

scanning a second portion of said first of the plurality of scanning regions using a second array of sensors during a second time period; and

scanning a portion of a second of the plurality of scanning regions using the first array of sensors during the second time period, wherein the first and second of the plurality of scanning regions are not adjacent to each other, and further wherein the first and second arrays of sensors are spaced apart from each other.

16. (Previously presented) The method of claim 15, further comprising sorting data from the first and second arrays of sensors to assemble image data.

17. (Previously presented) An apparatus, comprising:

means for dividing a scanning area into a plurality of scanning regions;

means for scanning a first portion of a first of the plurality of scanning regions using a first array of sensors during a first time period;

means for scanning a second portion of said first of the plurality of scanning regions using a second array of sensors during a second time period; and

means for scanning a portion of a second of the plurality of scanning regions using the first array of sensors during the second time period, wherein the first and second of the plurality of scanning regions are not adjacent to each other, and wherein the first and second arrays of sensors are spaced apart from each other.

18. (Previously presented) The apparatus of claim 17, further comprising means for sorting data from the first and second arrays of sensors to assemble image data.

19. (Previously presented) A scanning device, comprising:

a motor; and

a charge-coupled device comprising m rows of sensors, wherein each of the m rows of sensors are spaced apart from each other,

wherein the motor is adapted to move, during an exposure time, a distance substantially equal to a width of one of the row of sensors at a speed substantially equal to the width divided by the exposure time, and wherein the m rows of sensors are adapted to

concurrently scan m document portions during the exposure time wherein each of the m document portions are not adjacent to any other of the m document portions.

20. (Previously presented) The scanning device of claim 19, wherein the distance between the rows of sensors is substantially equal to (x/m)+n times of the width, wherein x is a positive integer smaller than m, and n is an integer equal to or larger than 0.

21. (Previously presented) The scanning device of claim 19, further comprising a circuit adapted to sort a plurality of staggered image signals from the m rows of sensors.

22. (Previously presented) A scanning device, comprising:

a motor; and

a charge-coupled device comprising m rows of sensors, wherein each of the m rows of sensors are spaced apart from each other,

wherein the motor is adapted to move, during an exposure time, a distance substantially equal to m/(m+1) times a width of one of the row of sensors at a speed substantially equal to m/(m+1) times the width divided by the exposure time, and wherein the m rows of sensors are adapted to concurrently scan m document portions during the exposure time wherein each of the m document portions are not adjacent to any other of the m document portions.

23. (Previously presented) The scanning device of claim 22, wherein the distance between the rows of sensors is equal to n times the width, and n is an integer equal to or greater than 0.

24. (Previously presented) The scanning device of claim 22, further comprising a circuit adapted to sort a plurality of staggered image signals from the m rows of sensors.